Installation Manual

ENFORCER®

EAP-5D1 *(5Amps. @ 12VDC, 4.5Amps. @ 24VDC)*

Access Control Power Supply, Single Output

EAP-5D1 Shown (with optional batteries)

SPECIFICATIONS:

POWER:

- Field selectable — 12VDC or 24VDC output.
- Operating voltage input 110~240VAC.
- Adjustable voltage range (11~15VDC, 23~26VDC) to compensate for voltage drop.
- Supply current: 5 Amps @ 12VDC, 4.5 Amps @ 24VDC.
- AC input fuse rating 3.15 Amps (glass fuse).
- DC output overload and short-circuit sensing with red LED indicator.

ENCLOSURE:

- Heavy-duty steel case to protect the power connections.
- Removable steel cover for easy access.
- Ventilation holes to prevent heat build-up.
- Enough room for two 7AH batteries (not included).
- 6-foot power cord and battery leads included.
- Dimensions: $12\frac{3}{16}$" x $12\frac{7}{16}$" x $3\frac{9}{16}$".
- Knock-out on the cover for optional cam lock.

FEATURES:

- AC power failure supervision relay.
- Battery failure supervision relay.
- Selectable 2.2K-Ohm End-of-Line (EOL) resistor for AC failure and battery failure supervision relays via DIP switch.
- Selectable delay timer (5 sec., 5 min., 5 hours) for AC failure supervision relay via DIP switch.
- Board designed with overload and short-circuit protection, including automatic shutdown and LED overload indicator.
- Over-current fuse-protected AC input.
- Built-in back-up battery charger (back-up battery is optional).
- Automatically switches to back-up battery if AC fails.
- Individual AC input and DC output LED status indicators.

What it is:

The ENFORCER Access Control Power Supply centralizes the power sources for multiple 12 or 24 VDC-powered electronic locks or accessories used in access control systems. The power input and power output are enclosed in one heavy-duty, easy-to-install enclosure. As a result, an ENFORCER Access Control Power Supply can replace several separate individual power sources.

Note before installation:

The ENFORCER Power Supply is not waterproof or weatherproof. Therefore, it must be mounted indoors where it will not be exposed to rain or other moisture.

Installation must be done by qualified personnel, and should conform to local and all other applicable codes.

Installation:

1. Find a good location for the enclosure. The enclosure should be mounted where it is out of sight and protected from moisture and the weather, but where an authorized person can have access for servicing it in the future.

   NOTE: Make sure the space where the enclosure is to be mounted has adequate ventilation. Otherwise, heat buildup inside the enclosure could damage the electronic parts.

2. Locate the enclosure mounting holes. Using these holes as a template, mark the location of the 4 screws on the wall with a pencil. First screw in two $\frac{5}{32}$" x 1" (4 x 26 mm) upper screws (not included) until the gap between the wall and the screw head is approximately 1/4" (6mm). Hang the enclosure on the two upper screws using the enclosure's upper screw holes and adjust the proper location of the enclosure. Screw in the two lower screws. Then securely fasten the upper and lower screws.

   NOTE: For concrete walls, first drill four holes on the concrete wall in the location of the screws. Then insert a "plastic anchor" (not included) in each of the holes first before fastening the screws.

3. Run wires from the access control devices and accessories to the power supply. The enclosure has knock-outs on the side, top, bottom, and rear panels for running cables. Punch out the appropriate knock-outs. See Fig. 1.

4. Set the desired DC output voltage (12 or 24 VDC) of the power supply using the DIP switch. See Fig. 3. The default voltage output setting is 12VDC.

5. Temporarily connect the AC power (110~240 VAC) to the "AC INPUT" terminal block of the power supply by following the terminal labels (i.e. "A" for active wire, "E" for ground wire and "N" for neutral wire). See Fig. 3.

   When AC power is connected, the green AC power indicator LED and the red DC output indicator LED should be lit to indicate the power supply is working properly.

   Check the output voltage reading of the power supply's DC output terminal block marked "- DC+" to make sure it is within the normal range. See Fig. 3. The default output voltage of the power supply should be about 13.5VDC at no load when set at 12VDC, and about 26.5VDC at no load when set at 24VDC. After checking, disconnect the AC input power.

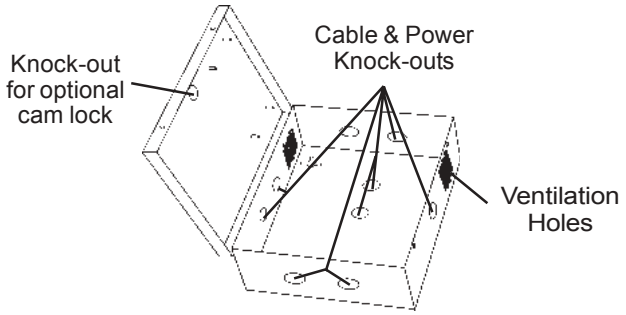
6. Connect the power input wires of the access control devices or accessories to the power supply's DC output terminal block. See Fig. 3. **OBSERVE CORRECT POLARITY.**

   IMPORTANT NOTE:

   a. Maximum total current connected to the power supply terminal must not exceed the power supply's total current capacity (5A @ 12VDC and 4.5A @ 24VDC).

   b. Be sure to check the output voltage reading of the power supply as

FIG. 1 — Enclosure Knock-outs



stated in point 5 above, and double check the specified operating voltage of each device before connecting it to the power supply to avoid potential damage.

c. *Use minimum 18-gauge wires to minimize voltage drop. The thinner the wire the greater the voltage drop.*

7. Reconnect the AC power and check the DC output voltage reading at the end of the wire pairs where it is to be connected to the devices. If the output voltage reading falls below the minimum voltage requirement of the devices, use a small screwdriver to carefully turn the potentiometer marked "VR1" located on the PCB. Turn clockwise to increase the voltage and counterclockwise to decrease the voltage. See Fig. 3.

   NOTE: *Do not adjust the potentiometer unless absolutely necessary. Adjusting the potentiometer will alter the default factory setting.*

   Adjusting the potentiometer affects the voltage output of all the wire pairs. Using an output voltage in excess of the specified voltage level of the electronic device may cause damage.

8. Once the desired DC output voltage is achieved, connect all wire pairs to their respective devices.

9. Connect a visual or audio indicator device (such as siren or strobe light) to the AC-failure and battery-failure / low battery supervision relays if needed. See Fig. 3. Use between 22AWG to 18AWG wire size.

   Programmable Features:

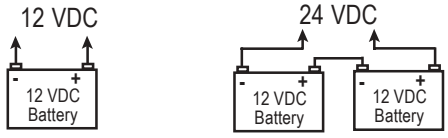
   A. AC-failure Relay Output Delay Timer — Programmable AC-failure relay delay timer at 5 sec., 5 min. or 5 hr. using the DIP switch. See Fig. 3. Default setting is at 5 sec.

   B. 2.2K Ohm End-of-Line (EOL) resistor — End-of-line 2.2K Ohm resistor for AC-failure relay and battery-failure / low battery supervision relays can be activated independently using the DIP switch. See Fig. 3.

   C. Battery presence and low battery monitor — When the LB MODE DIP switches are in the ON position, the EAP-5D1 will monitor the battery to verify it is connected with sufficient voltage to run the EAP-5D1 in case of AC power failure. It can take up to 5 minutes to alert you of a battery failure. The length of time the system will run will be limited by the overall capacity and the age of the batteries and the amount of load being drawn off the EAP-5D1.

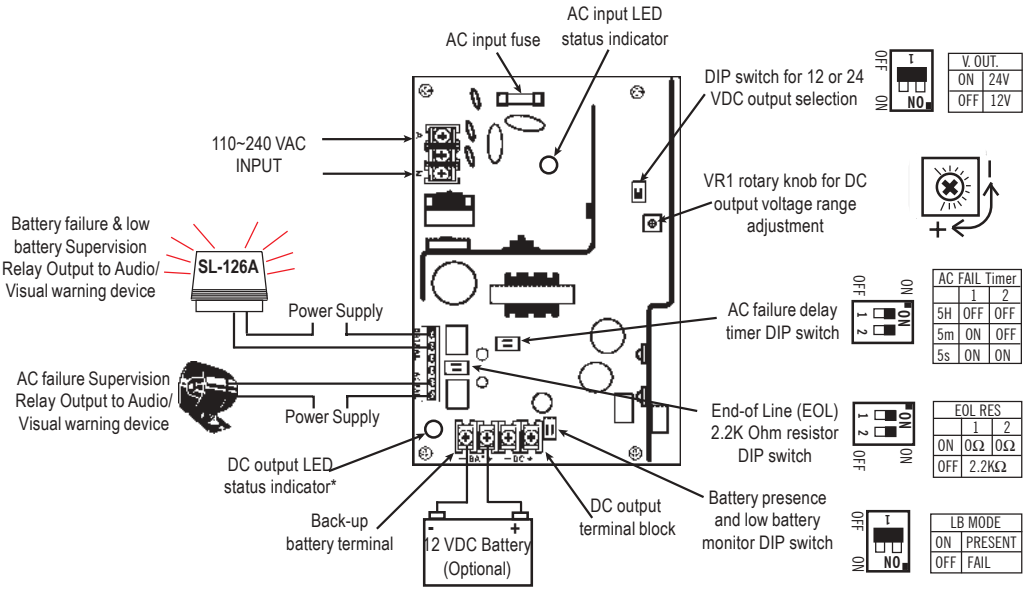
10. Connect the back up battery to the back-up battery terminal. See Fig. 2 and Fig. 3.

FIG. 2 — Back-up Battery Configuration



11. Close the steel door of the enclosure and secure it with either the provided machine screws or an optional cam lock.

FIG. 3 — Connection Diagram



* **Built-in output overload protection:**

If an output short-circuit occurs, the mainboard will automatically shut the output down and the red LED will start flashing. When the short-circuit is removed, the mainboard will automatically come back on line.

If an overload due to exceeding maximum current occurs, the mainboard will gradually reduce voltage to zero volts, at which point the red LED will start flashing. When the overload is removed, the mainboard will automatically restart normal output.

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